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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/21/2005

Marco Winter

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10/08/2008

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EXAMINER

RADOSEVICH, STEVEN D

ART UNIT

PAPER NUMBER

2117

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,596	Applicant(s) WINTER ET AL.	
	Examiner STEVEN D. RADOSEVICH	Art Unit 2117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-28 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 and 24 is/are allowed.
- 6) ☐ Claim(s) 1-15, 17-21 and 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 14-28 are present within this instant examination, in response to applicant's correspondence received 5/30/2008, which was in response to the initial examination mailed to the applicant on 1/24/2008. Examiner notes that applicant has within the applicant's correspondence canceled claims 16 and 22 without prejudice and therefore these claims (claims 16 and 22) will not be given further consideration within this examination.

Response to Arguments

Applicant's arguments with respect to claims 14-15, 17-21, and 23-28 have been considered but are moot in view of the new ground(s) of rejection.

Priority

As previously indicated and acknowledged priority is to 9/27/2002.

Drawings

As previously indicated the drawings remain accepted.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14, 15, 18, 19, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Kulakowski et al (U.S. Patent 5233584).

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1. As per claim 14, Kulakowski teaches a method for recoding a data stream on a storage medium (column 2 lines 21-25, line 45, and figure 4 with column 3 lines 27-30), wherein the data stream is recorded in data blocks (figure 9 and column 14 lines 7-35 with respect to 161-163), the method comprising the steps of:

Computing a parity block from one or more of the data blocks
(parity/SP/164 in figure 9 and column 14 lines 7-35);

Writing the parity block on the storage medium during recording (column 14 lines 7-35);

Keeping a spare data area on the storage medium blank (spare sectors/tracks in column 11 lines 1-25, reassigned/reassignment in column 14 lines 7-35, column 6 lines 40-68, column 7 lines 1-14);

Reconstructing a defect data block using the parity block (correcting in column 14 lines 7-35, and corrected in column 14 lines 7-35, column 20 lines 45-59, and column 23 lines 50-59); and

Storing the reconstructed data block in the spare data area (spare sectors/tracks in column 11 lines 1-25, and reassigned/reassignment in column 11 lines 1-25, column 14 lines 7-35, column 6 lines 40-68, column 7 lines 1-14).

2. As per claim 15, Kulakowski teaches wherein the step of reconstructing is performed after finishing recording of the data block (column 6 lines 32-40, figure 1, figure 15 with column 23 lines 43-59)

3. As per claim 18, Kulakowski teaches wherein the storage medium is an optical disk having one or more tracks, which are written and read-out using an optical pickup

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(see figures 4 and 3 along with column 1 line 19, column 3 lines 24-31, column 10 line 44 – column 11 line 25)

4. As per claim 19, Kulakowski teaches wherein the reconstructed data block is stored in one or the spare data areas selected to be close to the defect data block in order to allow replacement of the defect data block with the reconstructed data block with fast jumps of the optical pickup from one track to the other or even without jumps by buffering the spare area during playback (spare sectors/tracks in column 11 lines 1-25, and reassigned/reassignment in column 11 lines 1-25, column 14 lines 7-35, column 6 lines 40-68, column 7 lines 1-14,).

5. As per claims 25, Kulakowski teaches wherein the blocks are clusters for a Blu-ray Rewritable Disc (“optical disk recording medium” in figure 4 and column 3 lines 25-31, and “optical medium” and “optical disk” in column 2 lines 40-46).

6. As per claim 26, comprising:

Generating means for generating an error correction block for one or more of the data blocks (error level monitor (ECC) in column 4 lines 14-16, error correction and detection code (ECC) in column 2 lines 3-4, figure 17, and column 24 lines 3-36);

Writing means for writing the error correction block on the storage medium during recording (“optical recorders” in column 1 line 9, “Optical disk recorders” in column 1 line 13, and figure 3);

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Control means for causing a spare are on the storage medium to be kept blank (Microprocessor 40 in figure 3, with column 8 lines 19-26, and host processor 37 in figure 3, with column 11 lines 1-25);

Reconstruction means for reconstructing a defect data block using the error correction block (column 23 lines 43-59, column 2 lines 5-11, column 6 line 47 with column 7 lines 10-12, and column 7 lines 29-30).

Claims 21, 27, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Saitoh et al (U.S. Patent 6189110).

7. As per claims 21 and 28, Saitoh teaches the steps of:

Reading payload blocks until a defect block is detected (column 1 line 63 – column 2 line 3, column 4 lines 9-23, and figure 3);

Upon detection of a defect block, jumping back to a replacement block and recovering the defect payload block by reading the replacement block (spare sector, “(2)” and “(3)” in column 4 lines 24-35 and 45-61, along with figures 3-5);

Skipping the already read block (“(4)” and “(5)” in figures 2 and 5, along with column 2 lines 9-15 and column 4 lines 55-62, and figure 3); and

Continuing the reading of not yet read payload blocks (“(4)” and “(5)” in figures 2 and 5, along with column 2 lines 9-15 and column 4 lines 55-62, and figure 3).

8. As per claim 27, Saitoh teaches wherein the blocks are clusters for a Blu-ray Rewritable Disc (disk within the abstract, 326 in figure 3, "a disk" in column 1 lines 15-21)

Claim Rejections - 35 USC § 103

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kulakowski as applied to claim 14 above, and further in view of Murillo et al (U.S. Patent 7203896).

9. As per claim 17, Kulakowski teaches the above described in detail computing, writing, spare area, reconstructing, and reassignment.

Kulakowski does not specifically teach an additional parity block covers several groups of data blocks and parity blocks.

However Murillo teaches of an overall total parity covering several groups of data and the parity block (column 2 lines 40-45).

Therefore it would have been obvious to one of ordinary skill within the art at the time the invention was made to modify Kulakowski to include the overall total parity of Murillo to check the authenticity of the parity computed for the data block(s) and further strengthen the error detection and identification of the parity checking system.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kulakowski as applied to claim 18 above, and further in view of Okazaki et al (U.S. Patent 5896364).

10. As per claim 20, Kulakowski teaches the above described in detail computing, writing, spare area, reconstructing, reassignment, and optical pickup.

Kulakowski does not specifically teach wherein the reconstructed data block is stored in one or the spare data areas selected to be approximately located at a geometrical opposite of the defect block on the optical disk.

However Okazaki teaches wherein the reconstructed data block is stored in one or the spare data areas selected to be approximately located at a geometrical opposite of the defect block on the optical disk (column 6 lines 57-67).

Therefore it would have been obvious to one of ordinary skill within the art at the time the invention was made to modify Kulakowski to include the storing of the reconstructed data within a location separated (i.e. geometrically opposite) from the error section as in Okazaki to ensure writing to a faulty area.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

Claims 23 and 24 are allowable.

The present invention pertains to data management with the use of replacement/spare blocks/area within a storage medium. The claimed invention recites features such as: "reading payload blocks until a defect block is detected; upon detection of a defect block, jumping back to a replacement block and recovering the defect payload block by reading the replacement block; skipping the already read block; and continuing the reading of not yet read payload blocks; wherein the replacement block is read and buffered and further payload blocks are read until the defect block is detected" and "reading payload blocks until a defect block is detected; upon detection of a defect block, jumping back to a replacement block and recovering the defect payload block by reading the replacement block; skipping the already read block; and continuing the reading of not yet read payload blocks; wherein the read payload blocks are buffered and wherein a defect block is skipped and the following payload blocks and a

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parity block are read and buffered and wherein the defect payload block is reconstructed by using the buffered block and the parity block.”

None of the prior art, either taken by itself or in any combination with any other prior art(s), would have anticipated or made obvious the following combination of limitations within the above limitations at or before the invention within the present application: “wherein the replacement block is read and buffered and further payload blocks are read until the defect block is detected” and “wherein the read payload blocks are buffered and wherein a defect block is skipped and the following payload blocks and a parity block are read and buffered and wherein the defect payload block is reconstructed by using the buffered block and the parity block.”

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN D. RADOSEVICH whose telephone number is (571)272-2745. The examiner can normally be reached on 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques H. Louis can be reached on 571-272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JACQUES H LOUIS-JACQUES/
Supervisory Patent Examiner, Art Unit 2100

Steven D. Radosevich
Examiner
Art Unit 2117

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